

What is claimed is:

1. An ion guide for guiding ions in an analytical device having an intermediate chamber, comprising:

5 a plurality of plate-shape electrodes disposed in the intermediate chamber and juxtaposed in a transport direction of the ions, each of said plate-shape electrodes having an ion passage hole around an ion beam axis;

10 a plate-shape aperture electrode disposed as a partition between the intermediate chamber and an adjacent chamber, said aperture electrode having an aperture around the ion beam axis; and

15 a high frequency power source for applying a high frequency electric voltage to the plate-shape electrodes and the aperture electrode so that ions are transported from the intermediate chamber to the adjacent chamber with high efficiency.

20 2. An ion guide according to claim 1, further comprising a DC power source connected to the plate-shape electrodes and the aperture electrode for applying a DC voltage to accelerate the ions.

25 3. An ion guide according to claim 2, further comprising resistances connected between the adjacent plate-shape electrodes and the aperture electrode for creating an electric field gradient.

4. An ion guide according to claim 1, wherein said high frequency power source includes a pair of power sources connected to the adjacent plate-shape electrodes and the aperture electrode

alternately for applying the high frequency electric voltages having phases shifted by 180 degree with each other.

5. An ion guide according to claim 1, wherein said plate-shape electrodes have the ion passage holes with a diameter larger than that of the aperture electrode.